

Automated Surface Observing System (ASOS)

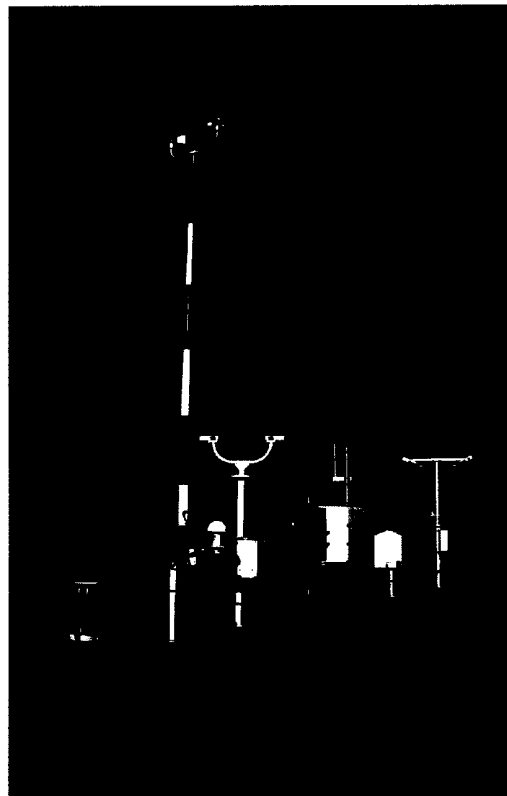
New Automated Surface Observing Systems (ASOS) are currently being installed at over 850 locations throughout the U.S. The ASOS program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). When installation is completed in the mid-1990s, the ASOS systems will serve as the nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities.

With the largest and most modern complement of weather sensors, ASOS will significantly expand the information available to forecasters and the aviation community. The ASOS network will more than double the number of full-time surface weather observing locations. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year.

Getting more information on the atmosphere, more frequently and from more locations, is the key to improving forecasts and warnings. Thus, ASOS information will help the NWS to increase the accuracy and timeliness of its forecasts and warnings—the overriding goal of the NWS modernization.

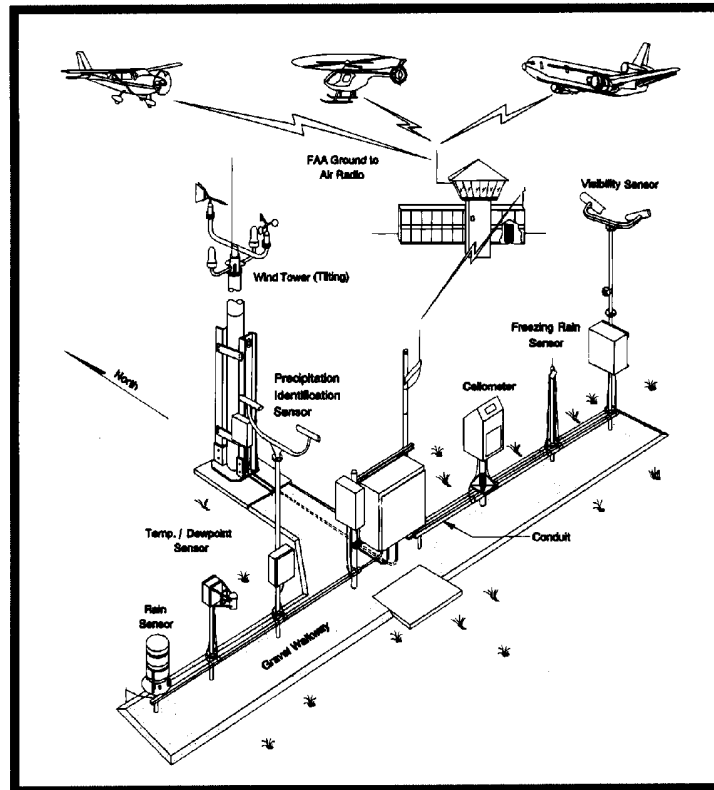
The primary concern of the aviation community is safety, and weather conditions often threaten that safety. A basic strength of ASOS is that critical aviation weather parameters are measured where they are needed most: airport runway touchdown zone(s).

ASOS detects significant changes, disseminating hourly and special observations via the NWS and FAA communications networks. Additionally, ASOS will routinely and automatically provide computer-generated voice observations directly to aircraft in the vicinity of airports, using FAA ground-to-air radio. These messages will also be available via a telephone dial-in port at the ASOS.



The ASOS sensors include:

- Cloud Height • Visibility • Precipitation Identification
- Freezing Rain • Pressure • Temperature/Dew Point
- Wind Direction and Speed • Precipitation Accumulation



ASOS Features

Observes, formats, archives and transmits observations automatically. When preselected weather element thresholds are exceeded (e.g., the visibility decreases to less than 3 miles), a "special" report is transmitted.

Reports basic weather elements:

- Sky condition: cloud height and amount (clear, scattered, broken, overcast) up to 12,000 feet
- Visibility (to at least 10 statute miles)
- Basic present weather information: type and intensity for rain, snow, and freezing rain
- Obstructions to vision: fog, haze
- Pressure: sea-level pressure, altimeter setting
- Ambient temperature, dew point temperature
- Wind: direction, speed and character (gusts, squalls)
- Precipitation accumulation
- Selected significant remarks including - variable cloud height, variable visibility, precipitation beginning/ending times, rapid pressure changes, pressure change tendency, wind shift, peak wind.

